He further remarks that in 1837 the wild orange groves south of Volusia and at New Smyrna were in full bearing, which shows that they were not much injured. In 1844 the writer saw very large sweet orange trees on Drayton Island bearing fruit, which could not have been killed down in 1835.

There has been some question as to the exact date of the freeze of 1835. I think there is no doubt that it occurred on the night of the 7th and morning of the 8th of February, 1835. Paragraphs in Nile's Register, February, 1835, state that the mercury was 1° below zero at Baltimore, and 1° above zero at Raleigh, N. C., on the morning of February 8, 1835. That month was excessively cold, the Chesapeake having been frozen so as to close navigation three times during that month. The mercury is reported to have been at 11° above zero at the same period at Fort King, Fla., then an army post near the present Ocala.

Dr. Baldwin of Jacksonville, an excellent authority, informed the Times-Union in 1886, that the date of the freeze in 1835 was the 8th of February, and the mercury stood at 8° above zero; and that about 1857, the day not given, the temperature was down to 16°. In 1857 the mercury fell to 26° at Tampa, 29° at Fort Pierce, and 30° at Fort Dallas, on the Miami. At Jacksonville the thermometer indicated, viz:

	°
January 16, 1857	16
December 28, 1872	27
January, 19, 1873	24
December 28, 1875	28
December 3, 1876	24
December 28, 1878	27
January 7, 1879	25
December 30, 1880	19
January 6, 1884	21
January 12, 1886	15

At Sorrento, on January 12, 1886, the thermometer indicated 19.

P. P. Bishop, in an address before the Fruit Growers' Convention, about 1872, said: "At Christmas, 1868, and again at Christmas, 1870, we had the two severest frosts that have been known in Florida since 1835. At each of these dates many young buds were ruined, many young seedlings frozen to the ground and much fruit destroyed."

With the foregoing statistics before us we are prepared to institute a comparison of the severe freezes we have had in Florida in 125 years at Jacksonville as a basing point.

	°
February, 3, 1766 (probably)	20
February 8, 1835	8
January 12, 1886	15
December 20, 1894	14
February 8, 1895	14

In 1766 the effects of the freeze were confined to loss of tropical plants, etc. That of 1835 destroyed all oranges, lemons, etc., north of 28° N. Lat. That of 1886 destroyed many young trees, and some old trees, but did not affect the crop of fruit in the following year in quantity, though it did in quality. The freezes of 1894–5 appear to have pretty generally killed down lemon trees, grape fruit, and young budded stock and many large trees; but according to present appearance (May 1895) old bearing trees will fruit for part of a crop the coming year.

In addition to the preceding, Mr. Fairbanks says:

Governor Glen of South Carolina, in a pamphlet published in London in 1761, says "that on the 7th of February, 1747, the temperature at Charleston was as low as 10° at 8 o'clock in the morning, and had been lower during the night; that all bearing orange trees were killed to the ground, and even an olive tree eighteen inches in diameter."

NOTE.—The lowest temperatures in Florida, as given by Schott in his temperature tables, are as follows:

Station.	Temperature.	Date.
Fort Barancas	10° F.	Jan., 1852
Fort Brooke	26	Jan., 1827, and 1857.
Fort Dallas	30	Jan., 1857
Fort Jefferson	42	Dec., 1868
Fort King	11	Feb., 1835
Fort Marion	21	Jan., 1831
Fort Meade	24	Jan., 1852
Fort Myers	31	Jan., 1852
Fort Pierce	29	Jan. and Dec., 1851 and 1857.
Indian Key	47	Feb., 1836
Key West	44	Jan., 1857

For South Carolina, Schott gives:

Station.	Temperature.	Date.
Charleston	16	Jan., 1852
Fort Moultrie	6	Feb., 1835

DROUGHTS IN THE MISSISSIPPI VALLEY.

The annual report of the Iowa Weather and Crop Service, for 1894, contains an admirable article by the Director of the Service, J. R. Sage, on the "Drought Problem." Among the many excellent sentences we quote the following:

> The question most vitally affecting the dairy industry is that relating to the permanence of the climatic conditions. Confidence is the basis of all business activity. We know what the past has brought forth, but what of the future? Are our droughty summers and hot winds to be the rule, instead of the exception, for many years to come? * * * The unusual experience of the past season has stimulated public interest in some of the problems of meteorology, and people are making the discovery that the tables and records of the weather clerks are not merely dry figures, after all, nor wholly devoid of value to practical people. The droughty season stimulated the growth of a great variety of theories and speculations. Now, it is a good thing to quicken inquiry and investigation, but it is still better to obtain correct answers. An interrogation point, like a corkscrew, may uncork healing balm or deadly poison. Can we make it rain? Why this extraordinary shortage of rain? What is the matter with our climate? Is this aridity the result of drainage and cultivation? These are questions that have agitated the community.

The author goes on to maintain that we can not make it rain, that neither rain nor drought are caused by human agencies, but by gigantic natural forces infinitely above the grasp of finite man. He shows that the records for past years demonstrate great variability in climates and in crops, but nothing to prove a permanent change. He gives a letter from the Hon. Charles W. Irish, describing the great drought of the summer of 1846, in Iowa, which corresponded to, and was, perhaps, a continuation of the drought of 1845, in Ohio, and that of 1844, in New England. From all appearances these three droughts were quite as severe as those of 1893–1895. He further shows how possible it is that droughts may be compatible with good crops of grain, if not of grass. As droughts alternate with very wet seasons, there is, therefore, no evidence whatever that civilization has affected the climate so far as concerns cloud and rain. The weekly Weather Crop Bulletin shows that the rain that usually falls over Iowa has simply passed by, and brought an excess to other sections. As the past is the best possible guarantee for the future, therefore we may still expect dry and wet seasons in about the average number and average irregularity. It is not well for man to give up in despair and retreat from the lands that he has attempted to occupy, but rather learn how, by forethought, to conquer a success in spite of the difficulties that nature presents. "By thorough drainage, subsoiling, the conservation of moisture by means of shelter belts of timber, artificial ponds, and artesian or deep wells, we shall, in time, be able to produce abundant crops and water our stock, whether the seasons be wet or dry."

THE WEATHER IN DISTANT REGIONS.

It has been abundantly shown that the prediction of the weather for a long time in advance must depend largely upon our knowledge of the conditions prevailing at the time of the prediction in different portions of the globe. In order to lay a proper foundation for the study of this subject we must have monthly, if not daily, charts of the temperature, pressure, moisture and winds over the whole globe, such as have been prepared and partly published under the title of International Simultaneous Observations. These charts for the years 1875 to the present time have been used hitherto principally as a means of studying the motions of low areas, or what is called the general circulation of the atmosphere in the Northern Hemisphere. Such studies have already shown that the phenomena of the Southern Hemisphere obey the same laws as hold good in the Northern Hemisphere, but in much simpler combinations, and that maps of both hemispheres, when compared together, mutually elucidate each other. It sometimes happened that cold, dry, and clear sea-